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(54) Title: MATERIALS AND METHODS FOR SYNTHESIS OF A FLAVOR AND AROMA VOLATILE IN PLANTS

(57) Abstract: The subject invention concerns polynucleotides encoding a plant 2-phenylethanol dehydrogenase enzyme. In one embodiment, the polynucleotide encodes a tomato 2-phenylethanol dehydrogenase. The subject invention also concerns polynucleotides encoding a plant phenylalanine decarboxylase enzyme. In one embodiment, the polynucleotide encodes a tomato phenylalanine decarboxylase. The subject invention also concerns 2-phenylethanol dehydrogenase polypeptides and phenylalanine decarboxylase polypeptides encoded by polynucleotides of the present invention. The subject invention also concerns methods for providing a plant with an increased flavor and aroma volatile. Plants can be transformed with one or more polynucleotide of the present invention. The subject invention also concerns these transformed plant cells, plant tissue, and plants and transgenic progeny thereof.



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